Mock CCO '18 Contest 3 Problem 4 - Roger Solves A Classic Rage Tree Problem

Time limit: 0.3s   **Memory limit:** 64M
Java: 0.6s

Roger is training for CCO and has decided to practice implementing rage trees. He decides to solve a classic problem that is solvable with rage trees.

Given an array with N integers and Q subarray queries, compute the range of each subarray.

Constraints

$1 \leq N \leq 5 \cdot 10^4$

$1 \leq Q \leq 2 \cdot 10^5$

$1 \leq a_i \leq b_i \leq N$

$a_i, b_i \in \mathbb{C}$

The elements of the array are positive integers up to a million.

Input Specification

The first line contains two integers, N and Q.

Each of the next N lines contains a single integer. These N lines constitute the values of the array in order.

Each of the next Q lines contains two integers, a_i and b_i, indicating a 1-indexed query.

Output Specification

For each query, print on a separate line the range of the subarray with leftmost index a_i and rightmost index b_i.

Sample Input

```
6 3
1
7
3
4
2
5
1 5
4 6
2 2
```

Sample Output

```
6
3
0
```